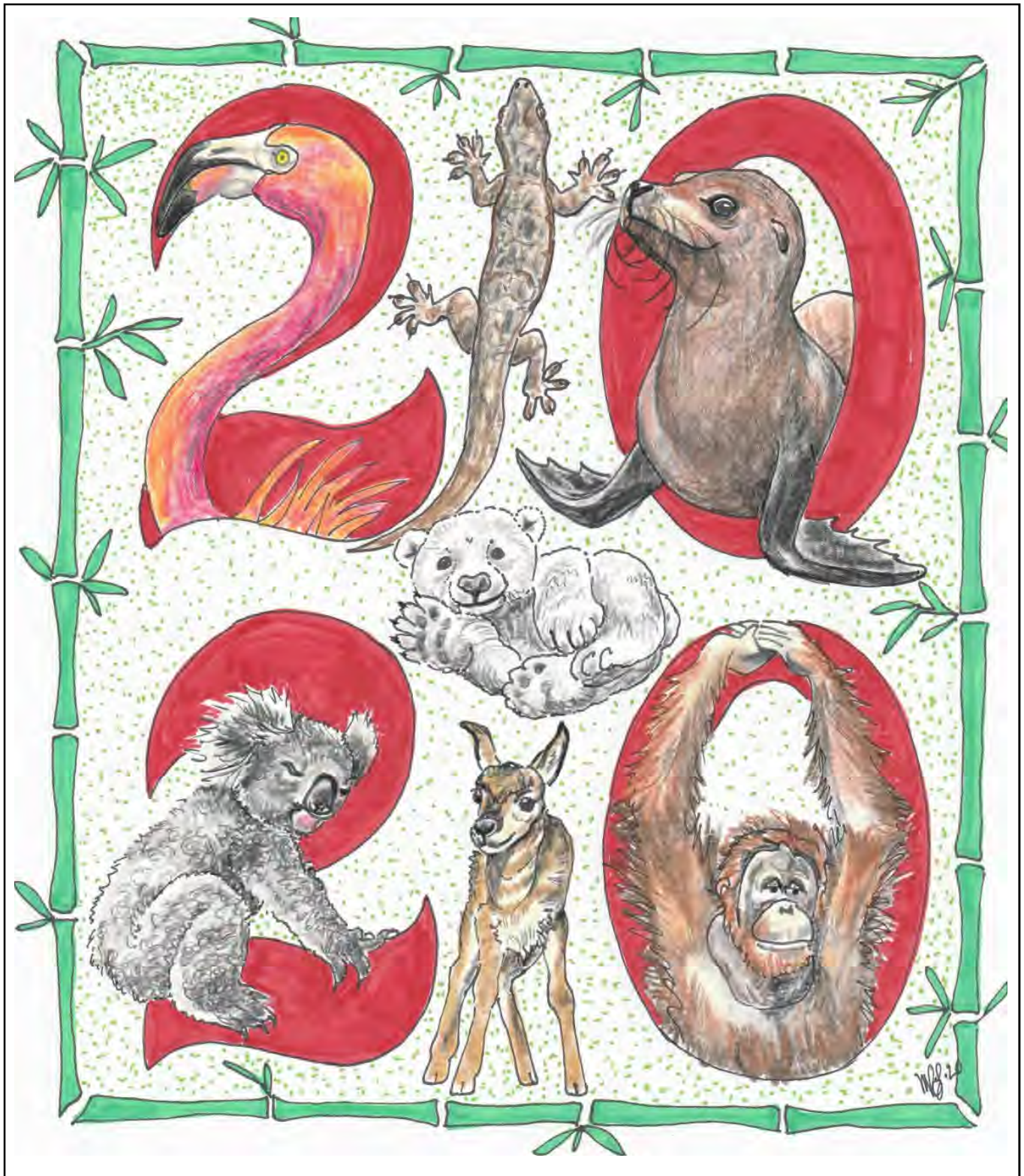


ZooNews

The Columbus Zoo and Aquarium Volunteer Newsletter

Vol. XLX No.1

January/February 2020





Editor in Chief
EMILY RAPOPORT

Layout Editors
BARB BAUGHER
CINDY WESNEY

Copy Editors
KATHY GOLDSMITH
CINDY PAYNE
KELLY HANLIN
CATHY SHADE

Artist
CHRIS LUTMERDING

Contributors
SUE ALLEN
JULIE BREEDING
LINDA FORTE-SPEARING
BEV LARSON
KAREN LINN
BARBARA MORRIS
NANCY MULHOLAND
MARY ROSE
SALLY RUDMANN
BARNEY WOLF

The mission of ZooNews is to promote awareness, education, preservation and conservation of our natural world.

To get involved or to submit an article, please contact us via email:

cbuszooneews@gmail.com

IN THIS ISSUE:

Enrichment.....	4
Artificial Insemination.....	8
Conferences.....	11
The Wilds.....	12
Animal Nutrition.....	13
VAP Notes.....	15
Zoo By the Numbers.....	16
Region News.....	17
Calendar.....	22

Communiqué

A new year, a new decade and so many things are happening!

As you prepare your calendars, here are some dates that may interest you: Saturday February 1st is the annual Westerville Rotary's Chilly Open. Saturday February 8th is the first day of the new docent class. Monday February 17th is President's Day, with free admission to the Zoo. Tuesday March 17th is the Kickoff Meeting at 7pm in the Lakeside Pavilion.

Both the Edwards Education Building and Adventure Cove are scheduled to open in May. There will be opportunities for sneak previews for the two areas; stay tuned for more information.

Our AZA Accreditation will happen in late spring/early summer. You will notice a flurry of activity on Zoo grounds as we go through the final checklists and make sure everything is white glove ready.

The annual AZA conference is going to be held in Columbus this year. The conference will run from Saturday September 12th through Thursday September 17th. We will need help throughout the week at the Convention Center and on September 17th at the Zoo. We will have a meeting later in the year, outlining all the volunteer opportunities.

It is going to be an amazing year and we thank all of you for your help! We couldn't survive without you!

We'll see you at the Zoo!

Ginger, Carole, Mary, Kathy and Rachel

Save the Date

The Region Meetings will begin on Tuesday, March 17 with the Zoo Volunteer Kickoff Meeting. If you've attended previously you know that a lot of good information is shared at that meeting! The meeting will be held in Lakeside Pavilion. We hope to see all everyone at the meeting!

From the President

Our construction projects continue to move forward. Our Education building will be completed in May, along with Adventure Cove. We have decided to start our Orangutan project in August. The building will be completed in the beginning of 2021. We are awaiting good news from a state grant to allow us to make even more improvements throughout the Zoo. The improvement list for the grant includes remodeling the Education building, a meerkat exhibit, remodeling “My House” and installing aquariums in the Australia nocturnal building (the Roadhouse). We have our fingers crossed that we will receive some funding. We will then decide which project will be the first for construction. Soon, we will start the design process for Bonobo and Gorilla habitat improvements as well as begin master planning for 2025-2035. It is a busy and exciting time for planning our future!

Tom Stalf, President/CEO



Photo courtesy of Graham S. Jones

From Your Editors

It's a new year, new decade, and new leaders of the newsletter staff. We are excited to take on these roles because we know how much this information improves everyone's collective knowledge. All of us are privileged Columbus Zoo ambassadors who strive to make every experience G.R.E.A.T.

This is your newsletter and we want to include information that is important to you. We hope you'll stop us on zoo grounds to chat, or even volunteer to write an article on a topic that excites you. As we establish a mission for this monthly communication, we encourage you to give us feedback at our new email address:

CbusZooNews@gmail.com.

Emily, Barb, and Cindy



Region Leaders and Committee Chairs as of January 2020

Pat Adams
Congo Expedition



Bill Blair
Australia & the Islands



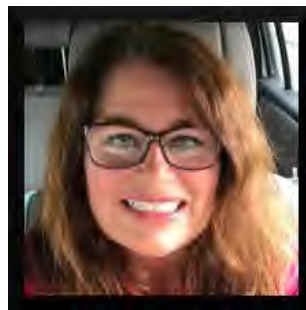
Peggy Heffelmire
Shores



Lori Summers
Asia Quest



Krista Hyme
North America



Dianna Van Buren
Heart of Africa



Ann Karrick
Animal Programs



Terry Payne
Enrichment Committee Chair



Emily Rapoport
Zoo Book Club Committee Chair



Enrichment: An Introduction to the Science of Behavioral Husbandry

To the casual observer, animal enrichment may seem an unplanned activity of giving random toys to animals for the purpose of entertaining them and the visitors. However, enrichment or behavioral husbandry is far more complex, focused, and scientific. Enrichment is a behavioral, evidence-based approach to animal care that focuses on understanding how animals interact with their environment both physically and socially. The goal is to provide animals with the opportunity to voluntarily participate in their own care and express behaviors that are typical of their species.

The Disney Animal Science and Environment Animal Enrichment Program describes their animal enrichment program as one that is “fully integrated into daily animal management” and is “both proactive and dynamic”. All individuals involved in animal care including keepers, medical staff, nutritionists, administrators and scientists, contribute to these types of comprehensive enrichment programs. Although institutional enrichment programs may differ in their approach, most incorporate a framework that involves several common steps including setting goals, planning, implementation, documentation, evaluation, and re-adjustment. This is a systematic approach based on both scientific evidence (such as the natural and individual history of the species) and experience (data collection and analysis) and finally re-adjustment as needed. The process is an example of a “science-to-practice connection”. Research data from areas of behavioral science inform the development of new methods of influencing animal behavior which are then implemented in the animal care setting. Behaviors are then observed, and data analyzed to further inform practice. This represents a cyclic process of continuous process improvement.

A new special topics course at CCAD provides students with the opportunity to create enrichment items for the zoo's animals.

The first step in any enrichment activity would be to consider the requisite components of any desired behavior. For example, if the behavior was hunting, some components might be stalking, chasing, listening, catching, etc. If foraging was the targeted behavior, listening, smelling and digging would be examples of possible behavioral components. Staff must determine which behaviors they want to encourage as well as those that they want to discourage. Safety is always an important concern when designing enrichment programs.

Enrichment may fall into one or more of the following categories:

- **Habitat** – examples include adding trees and vines for climbing
- **Cognitive** – examples include positive reinforcement training activities
- **Sensory**- examples include novel smells or recorded sounds
- **Food**- examples include puzzle feeders or frozen treats
- **Toys**- examples include boomer balls or hammocks

Enrichment activities work hand in hand with institutional efforts to repurpose resources and foster sustainability. Cardboard boxes, textiles, fire hose, and other “treasures” are often suitable for animal enrichment. Carefully and thoughtfully incorporated into the habitat, enrichment activities can increase positive animal behaviors and decrease unwanted behaviors, while increasing the enjoyment of visitors to the Zoo.

In addition to the involvement at all levels within the Zoo, enrichment efforts are enhanced by the creation of strong community partnerships such as the Zoo's relationship with Columbus College of Art and Design (CCAD). A new special topics course at CCAD provides students with the opportunity to create enrichment items for the

zoo's animals. Under the guidance of Animation Chair and Associate Professor Charlotte Belland and in collaboration with Zoo staff, students have created a number of enrichment items including a cardboard birthday cake for the lions. According to Professor Belland, students in the course work with Zoo administration and staff to "research, design, prototype, and present enrichment items." This project is a win-win. The Zoo benefits from the creative skills of the CCAD students and according to Professor Belland, the students "become better artists and designers because this project is making them actively engage their research skills and apply that to the product."

Since the summer of 2015, the Columbus Zoo and Aquarium has offered a Congo Animal Enrichment Internship for college students and recent graduates with strong academic records. The goal of the program is for student interns to work with animal care staff to "conceptualize and build animal enrichment devices." According to animal care staff Danessa Morrow, the intern mentor for the program in Congo, the students do an amazing job working with staff to develop creative ways to elicit behavioral goals. One example referenced was a basket swing built for the colobus monkeys. In their native ranges, the colobus spend much of their time off the ground. According to Danessa, the swing provided "extra space for sunbathing or for the kids to play, away from the adults." Another example is a cardboard zebra made for Sita, our lady leopard. The cardboard zebra was designed to elicit hunting behaviors such as stalking. It was also sprayed with scents to entice Sita.



Photos courtesy of Danessa Morrow

Overall, enrichment is the responsibility of all members of the Columbus Zoo and Aquarium family. The successful implementation of an enrichment program results in a more positive environment for our animals and an enhanced animal-visitor experience.

References

Animal Enrichment. <http://www.animalenrichment.org/>. Accessed 12/29/19
Animal enrichment. Smithsonian's National Zoo and Conservation Biology Institute. <https://nationalzoo.si.edu/animals/animal-enrichment> Accessed 12/30/19
Special topics course creates enrichment items for Columbus Zoo & Aquarium. Columbus College of Art & Design. <https://www.ccad.edu/blogs/special-topics-course-creates-enrichment-items-columbus-zoo-aquarium> Accessed 12/30/19

- Sally Rudmann



You Rang? (Enrichment In Heart of Africa)

How do you keep 86 animals in Heart of Africa busy and engaged during the winter? Enrichment, that's how.



If you ever receive a strange phone call, it might just be a saddle-billed stork who has been given phone books and may have your number!

Time Factors

Keepers consult a chart of daily enrichment items and instructions for each species. All foods and items are first evaluated for animal safety before being given. Animals

tend to shy away from new items and need a few exposures to feel comfortable with them, but then seem to enjoy their enrichment. New objects are given several times and then evaluated for effectiveness, such as sidewalk chalk for drawing, which is currently under review.

Some enrichments are changed from morning to afternoon to evening, and some come with instructions to be removed at the end of the day or to be monitored. There are special items and instructions when babies are involved; for example, the vervet monkeys with young receive enrichment that is safe for smaller bodies, like laundry baskets with only small holes or small Hol-ee roller balls. There are different enrichment item lists for summer and winter, since the savanna and the animal interactions available there are enriching in and of themselves.

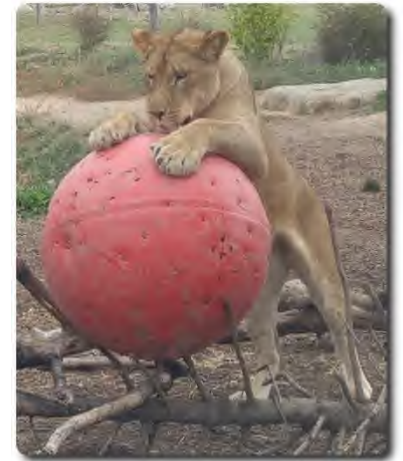


Photo courtesy of Shannon Borders

Easily Available Items

Not all enrichment consists of purchased food or manufactured objects or devices. The animal care staff also utilizes natural or donated resources, which also makes up for any budget constraints. Browse sprinkled with spices, perfume or animal hair are offered in different ways such as being hung up or made into tepees. Blunted antlers can be suspended for the kudu, and vervet monkey (who enjoy novelties) can play with blown-out ostrich eggs and dirty hoofstock bedding – reusing materials.

Repurposing

Some items are used in ways different than their usual purpose, again showing the unique ways keepers look at the habits, instincts and needs of their animals. Zebra, gazelles and others like to smell, rub and scratch against pushbroom heads. It appears zebra, kudu, gazelles, ostrich and giraffe like to bash into, move or lick anything that hangs, such as trashcan lids, plastic shovels, buckets, blue barrels and milk and water jugs. The tortoises and birds like easy-to-move objects or ones that change direction, such as plastic Easter eggs, triangle toys, firecones and firecones with firehose strips. Boomer balls, or really balls of all sizes with or without food, and jingle bells are universally liked.



Photo courtesy of Shannon Borders

Enriching Intelligence

All the animals of HOA have their own intelligence, but the brain power of the vervets makes it more of a challenge to keep them occupied and happy. They get many items we humans use with our own tots like rocking horses, Playskool activity tables and slides, wooden blocks, pots and pans, Tupperware and empty plastic bottles.

Working with the Senses

Stimulating various senses is important in enrichment. Birds and vervets enjoy visual stimulation with mirrors and bottles of glitter. Giraffes like to watch or burst blown bubbles. Baby pools with various substrate or water provide many animals with an interesting change in the feel of their landscape. Food items can be hidden here too and the pool contains material for easier clean up. Most animals enjoy smelling condiments, fragrances, used bedding and hair as well as baby powder and muscle rub ointment rubbed on walls. Sounds, soothing and otherwise, are enriching and relaxing for many of the animals. Vervets bang on pots and pans and Guinea fowl peck on and tip over stacked metal dishes. Then there are the tinkling sounds of hanging spoons and bamboo chimes as animals interact with them. The crowned cranes have a piano mat, but no recordings have been made as yet, so who knows what that sounds like! Recorded music is enjoyed by guinea fowl, gazelles and giraffe. Zuri the giraffe loves the soothing songs of Frank Sinatra and Michael Bublé.

Zuri the giraffe loves the soothing songs of Frank Sinatra and Michael Bublé.

Taste is of course a no-brainer. Animals love to search for food, novel or not. And keepers oblige by spreading it around. Food presented in a different way such as a whole head of lettuce or a hanging bag of hay allows some play and some natural behaviors in corralling a meal. Creative keepers like to use contrafeed (a term for letting animals work for food as opposed to eating the same freely available food in their habitats) by putting food inside paper bags and boxes, spreading it around the habitat like an Easter egg hunt. Mixing rubber kongs in with grain so animals must move them to eat and various types of puzzle feeders hold their attention longer.

According to Shannon, the animals that are the most fun to give enrichment to are Kipawa and Logan giraffes, because they are interested in everything, as well as the guinea fowl and cranes because they are naturally curious and get excited over new experiences. We are so lucky to have creative, hard-working keepers who love their charges and want them to be active and involved to the max.

-Juliann Breeding

Sources: Monthly Enrichment Calendars and Shannon Borders, Assistant Curator- Heart of Africa

Artificial Insemination Is a Tool, Not a Panacea

Within our zoo population, elephants, tigers, cheetahs and Pallas' cats have all recently undergone artificial insemination (AI) procedures. The Wilds' attempt to inseminate cheetahs was shown on an episode of "Secrets of the Zoo." The Cincinnati, Miami and Louisville zoos have had ocelots, rhinos and elephants conceived this way. To read the press releases, one might think all zoo babies come into the world via some type of assisted reproduction and we have whatever baby we want whenever we want. Others ask why, with zoos struggling to have self-sustaining populations of many species, assisted reproductive techniques are not used more often. *It's not that easy.*

Background

The first recorded successful AI of an animal occurred in a dog in France in 1790, but it was not until the 1930s and 1940s that assisted reproduction underwent phenomenal growth and became common practice in the livestock industry, particularly with dairy, and beef cattle and swine. Improvement of the genetics of the herd, increased output, safety of the animals involved and convenience are the advantages.

Breeding in the zoo community is about maintaining self-sufficient populations and increasing genetic diversity. AI has become priority research and development as a reliable method to supplement natural breeding and develop reproductive techniques that might be applicable to wild population of endangered animals as well.

There are other types of assisted reproduction, including embryo transfer and in-vitro fertilization, but AI is the most common with different variations of the method. It is still less successful than natural breeding and in many species, there has been no success or extremely little success, even after many attempts. For example, 0 for 12 with polar bears and 0 for 3 with giant pandas. It is a tool for zoo professionals to use, not a panacea for increasing populations.

The pros to using AI:

- When there is a non-natural gender breakdown within the population.
- When there are behavioral problems or physical impairment that makes natural breeding unlikely to occur.
- When the populations are geographically distant.

The cons include:

- The procedure and everything leading up to it, such as animal training, semen collection and freezing and lab tests, can be expensive and time consuming.
- Not all zoos have the expertise to perform the procedures.
- The timing of the insemination relative to the female's estrus cycle can be difficult to nail down, is species specific and must be done at *exactly* the right time.

Cats at the Zoo

Pallas' cats Manda and Paval have had the opportunity to breed naturally, but haven't been so inclined. Two laparoscopic oviductal inseminations have resulted in one successful pregnancy in 2017 and one kitten. Cats are spontaneous ovulators, which means they can release an egg at any time. This type of AI involves sedating the female, then stimulating her ovaries to have follicular growth and egg development. A veterinarian visualizes the reproductive tract through a scope and then deposits the semen into the uterus near the oviducts. Currently 42 Pallas' cats reside in only 18 AZA zoos.



New female tiger Changbai underwent oviductal laparoscopic AI when in quarantine. Although we have had great success with natural tiger breeding, the SSP asked us to try AI with Changbai as there has been limited success, 3 out of 61 tries, with tigers to help perfect the technique. We have since learned that the AI attempt with Changbai was not successful at this time.

Cheetah populations in US zoos are doing quite well, there is good gene diversity and the population is stable. 2017 was a banner year with 91 cubs.

Three female cheetahs were inseminated recently with semen from males at The Wilds. Cheetah populations in US zoos are doing quite well, there is good gene diversity and the population is stable. 2017 was a banner year with 91 cubs. However, AI in cheetahs has met with very little success; the last was in 2003, although it has been tried somewhere every year since then.

Researching AI in cats is critical because where those in the wild aren't doing well, work with cats in human care gives insight into protecting wild ones.

Elephants

Neither the African nor Asian population in US zoos is self-sustaining and the situation is more dire every year. Since 2011, 28 calves have been born – yet 68 animals have died. This year alone, there were five times more deaths than births (2 births, 10 deaths). Elephant pregnancies, by whatever means, is a high priority because of the long pregnancy, long birth interval and the advanced age at which younger animals reach sexual maturity. The situation is more critical for the Asian population, as there are fewer total females and only about half of those are in child bearing age.

Hank has had the opportunity to breed, but hasn't. Natural breeding is still preferred and is successful more often than artificial; however, it is important that Phoebe, at almost 32, becomes pregnant again *and soon*. The situation is also becoming imperative for Rudy, who just turned 18. If females don't deliver their first calf by their early 20's they can have serious medical complications to a pregnancy and are no longer recommended for breeding by the SSP.



Unlike the cat species, elephant AI is performed while the animal is awake, and the semen is deposited vaginally. Knowing when to do the procedure can be tricky because elephants only ovulate once every 14 - 16 weeks, and although diagnosed via hormones in the blood, ovulation is more obvious in some animals than others.

There have been 32 AI pregnancies in North America since the technique was perfected in 1999. 24 of those were African elephants. Five of the Asian calves were born in AZA zoos, the other three in non-AZA facilities. There have only been two Asian elephant AI calves born in the last 10 years, one of these was Phoebe's calf from December 2018, Ellie.

At The Wilds

The Wilds has had AI success with oryx, onager and banteng. The onager births were the *world's first* of a non-domesticated equine.

The amount of research that goes into making these "high tech" babies is under reported. What works in one species does not necessarily translate to another within the same family and within species, and procedures that work at one institution might not work in another. A lot of effort is spent defining what is normal for a specific animal before proceeding further. For example, the National Zoo has had success with AI and Przewalski's horses, but attempts at The Wilds have not been successful.

Many of the species at The Wilds breed quite well naturally. Assisted reproduction efforts here are often in collaboration with other institutions and researchers. A benefit to having large herds at The Wilds is that many animals can donate samples quickly and efficiently. Staff from the Cincinnati Zoo's CREW (rhino) and the National Zoo's SCBI (Przewalski's horse) come yearly and collect from several animals in one trip.

What's next?

The creation of banks of genetic material could help researchers create offspring from valuable animals that have died. This occurred at The Wilds when two banteng calves were born after their father had passed away. It would also be easier, for both the humans and animals involved, to transport genetic material from other continents to North America rather than transport live animals long distances. Gender selection of the offspring through sperm sorting is another possibility in the future.

- Nancy Mulholand

Sources: The History of AI, R.H. Foote, Department of Animal Sciences, Cornell University, 2002; Biology, Medicine and Surgery of Elephants, Murray Fowler and Susan Mikota, Blackwell Publishing, 2006, Adam Felts, curator, Randy Junge MD, vice president of Animal Health, Columbus Zoo and Aquarium; Dan Beetem, director of Animal Management, The Wilds; Smithsonian Conservation Biology Institute; nationalzoo.si.edu/center-for-species-survival/news/cheetah-conservation-community-bolsters-cub-count



AZADV and NAI Conference Updates



We are so fortunate to volunteer at a zoo that provides us with such wonderful opportunities to learn more about our beloved animals, their relatives in the wild and conserving their habitats of origin.

In addition to our region meetings, luncheon lectures and other continuing education programs, there are two annual conferences you can attend to expand your knowledge, weave in some travel and have fun networking with peers as well. The first is the Association of Zoo and Aquarium Docents and Volunteers (AZADV) annual conference.

The 2019 AZADV conference was hosted by the Greenville Zoo in South Carolina and attended by 210. Beautiful weather even prompted some docents to bypass the provided motor coach ride to travel the one-mile scenic route – the Swamp Rabbit Trail – and walk to the zoo. The downtown area, also in walking distance, was charming with an old-style general store and a scavenger hunt in which nine actual-size bronze Mice on Main sculptures were hidden along the street and became a quest to find. Falls Park on the Reedy, Heritage Green and Linky Stone Park: The Children's Garden were other scenic features nearby for casual strolls.

Pre-conference trips were offered to the Western North Carolina Nature Center, the sustainably designed Sierra Nevada Brewery, and the Riverbanks Zoo and Garden. The opening session featured a talk by Cris Hagan about the Turtle Survival Alliance. The ice breaker event was held at the Children's Museum of the Upstate, followed the next day by Zoo Day at the Greenville Zoo with special amenities and behind-the-scenes tours just for us. Keynote speakers included a luncheon talk by Rudy Mancke, host of the "Nature Notes" radio spot, and at the closing banquet, the Greenville Zoo's jubilant orangutan birth team shared the story of an animal's successful high-risk pregnancy. The post-conference tour was an excursion to the South Carolina Botanical Gardens at Clemson University.

Other activities included a silent auction with contributions from all the zoos, photo contest, poster presentations, the delegate meeting and a wildlife-themed vendor market. The next conference will be September 21-26 at the zoo in Louisville, Kentucky. The 2020 conference delegate from our zoo will be docent emeritus Sue Kiebler.

AZADV membership is open to anyone who volunteers at a zoo or aquarium or has in the past. Dues are \$20 per year.

Do you enjoy our region meetings? Then you'll enjoy attending the conference sessions led by the staff of the host zoo. If you're interested in becoming a more versatile volunteer, there are sessions where you can learn from peers about tips and programs that have been successful at their zoos and adapt them to suit your own style.

You'll discover that all volunteers are proud of their zoos, love their animals and share stories freely. Some of the stories are even updates about animals that have arrived at, or departed from, our zoo! Before long, you'll feel like you're attending a zoo family reunion held in a new place every year.

The National Association for Interpretation (NAI) is the organizer of the second annual conference opportunity.

If you've become a Certified Interpretive Guide through the classes held annually at our zoo, you can renew your certification by attending the annual conference. The 2019 conference was in Denver, while the 2020 version will be in St. Augustine, Florida. While AZADV focuses on zoos and aquariums, the NAI sessions delve into designing and delivering messaging, storytelling, exhibit creation and history. The conferences draw attendees from zoos, national parks, state parks, federal agencies, NASA and more, and are another comprehensive learning opportunity with great field trips to consider.

Join us!

– Jennifer Davis

An Update From The Wilds



Rhinos

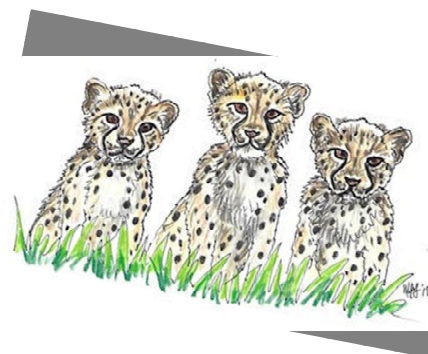
The Wilds welcomed two female southern white rhinoceros calves, one born in the pasture during the afternoon of October 23, 2019, and the other born in the heated rhino barn on December 6. The calves are the 21st and 22nd white rhinos to be born at The Wilds since 2004, and the third and fourth fifth-generation white rhinos to be born there—**the only facility that has had fourth and fifth generation births of the species outside of Africa.**

The first rhino was named “Scout” in recognition of Iron Pony Motorsports and their four consecutive years of dollars raised from their annual “Ride for Rhinos” motorcycle ride. Considered one of the largest motorcycle rides to benefit protected wildlife species in the world, more than 600 participants rode from Westerville, Ohio to The Wilds last year.

The second rhino has been named “Bing” in recognition of Drs. Hetty and Arthur Bing for their long history of support for The Wilds, and their generous gift to expand the Overlook.

Cheetahs

The Wilds also welcomed a litter of six cheetah cubs born on October 30 to mother, Pumzika, and father, Finnicks.



Five-year-old Pumzika is a first-time mom. She was born at the San Diego Safari Park and arrived at The Wilds in July 2019. Finnick is seven years old and came to The Wilds from the White Oak Conservation Center in Yulee, Fla. in 2014. Finnick has been the father of three previous litters at The Wilds.

There are many pictures of the rhino and cheetah babies on social media.

—Sue Allen

Thanks to Dan Beetem, Director of Animal Management, The Wilds.

Watch for more from The Wilds in future sections of your region news. Also, why is The Wilds able to have such success in breeding rhinos? The answer might surprise you! Watch for this and other Wilds news in future editions.

Takeover Tuesday: A Day in Animal Nutrition

(Text originally published September 3, 2019 on the Columbus Zoo and Aquarium Facebook page)



Although I originally set out to become a keeper, I am so blessed to have found my home in Animal Nutrition. I have the best coworkers and am so lucky to love going to work every day, preparing and delivering diets to the more than 10,000 mouths we have at the Columbus Zoo. For today's Takeover Tuesday, I would like to show you what that all entails, because 6 a.m. daily deliveries take some muscle and a bit of finesse!

Daily Deliveries

On any given day there are three main tasks to be completed in the Animal Nutrition Center (ANC). First is the basket person; they put together the produce portion of animals' diets. Second is the meat person; they put together the carnivore diets. Based on staffing, sometimes the first two roles are combined, leading to a non-stop day jammed pack with hard work...and fun! Last, there is task number three--the delivery person! The delivery person is responsible for taking all the diets made the day before (produce and carnivore, plus any extra items that departments order) to each animal area first thing in the morning.



We have 30+ bins, 10+ buckets, and a myriad of other creatively packed items that will need to fit in our hollowed out 12-passenger van, all the while making sure we adhere to multiple regulatory agencies we answer to such as AZA, ODA, FDA, USDA and DANA... (Ok that last one is actually our Department Director) when dealing with animal food. Each day of the week is a bit different in what we have to deliver.

Some days the carnivores have a bone day, so instead of us carrying multiple buckets with their meat, we will have just one (heavy) bin of bones. Some departments may only get a paper bag with 2 pounds of lettuce in it, while other departments will get 200 pounds of produce daily. Rain, shine, sleet or snow—it is our job to get these diets to each of the animal areas in a timely manner so the keepers can use the diets to start their day with shifting, training or feeding.

The “Extras”

On our morning trip around the Zoo, we are not only taking the carnivore diets and produce bins, but we also have other items that can be requested through our online order system. These are the things that keepers may need to supplement an animal diet, use to administer medicine or use to prepare enrichment for the animals. Being that we stock over 800 products (sourced locally, internationally and everything in between), we have to get pretty creative most mornings trying to fit everything inside the van.

In the Animal Nutrition Center, we also have a special delivery calendar that tells us daily and weekly goods that need to be gathered and packed in the van to take with us. For example, elephants receive three watermelons every Wednesday for recall training, gorillas get 4.6 pounds of fresh acacia daily, and the feathertail gliders get nectar every Wednesday and Saturday. Based on the needs of each and every department, Animal Nutrition Center staff will need to tailor the “how” and “how long” it takes to load the van in the morning and no two days of the week are ever really the same!



One of my favorite days to do deliveries is on Tuesdays and that is because Tuesday is bug day! Every Tuesday, we receive our live bug shipments to feed our many hungry birds, reptiles and even bears. Each week we average 22,500 superworms, 103,100 mealworms, 3,500 waxworms, 8,500 maggots, and 31,000 crickets. The bugs arrive in boxes, and we will sort them into the various delivery locations. The bugs are very sensitive to excessive heat and cold (except the maggots who like it cold) so before we deliver them, we'll make sure the van is at a comfortable temperature and they have a nice ride before their final fate.

Additional Helping Hands



Through our online food ordering system, another category that departments can order from is the bagged feed. There are all different sorts of feed, such as finch seed, leafeater biscuits, even a reindeer chow. Bags range from 15 to 50 pounds and each are designed to meet the nutritional needs of specific species. For example, we have a flamingo complete diet we use for our adult birds. However, when there are babies or animals that may lay eggs soon, we switch them to a flamingo breeder diet, which is higher in calcium and other minerals to help meet the needs of growing birds.

We are very fortunate to have an AMAZING warehouse staff, who graciously deliver all of the bagged feeds, pallets of bedding and large fish orders for us. Even my clutch Tetris skills cannot accommodate an additional six cases of fish going to penguins or the 12 bags of wild herbivore grain going to Heart of Africa in the van for morning deliveries.

The Animal Nutrition Center staff is ultimately responsible for keeping track of the feeding trends, ordering and stocking of these various bags. We keep at least a month and a half supply of all feed on hand, so if there should be a glitch at one of the manufacturing plants, or Mother Nature prevents transportation to us, we have enough to hold us until a solution to the problem can be found.

- Jessica Roarty, Animal Nutrition Center

What Is the VAP?

The Volunteer Advisory Panel (VAP) is exactly what it sounds like: a committee comprised of docents, adult volunteers and divers with varying years of service that advises the Zoo's Education Department on issues of importance. Please note that the VAP is an advisory group only, not a decision-making body, that meets four times a year. All volunteers are encouraged to bring issues that they would like to have discussed to the attention of the committee. Names of the volunteer members and meeting minutes can be accessed on the Portal under Important Documents, Volunteer Advisory Panel.

Summaries of Meeting Minutes

In September, the panel discussed the results of a survey of zoos in the Midwest regarding volunteer duties, requirements and perks. The second topic of discussion was how volunteers can use bio-facts to engage guests. The final topic on the agenda was Milestone Awards - rewards in recognition of volunteers' cumulative service since 2012, when records were first kept on Volgistics.

In December, the topics of discussion included the possibility of offering long-sleeved, summer-weight uniforms that provide protection from the sun, the role of volunteers in Adventure Cove, and Continuing Education (CE) topics for the future.

The next VAP meeting will be in March, date to be determined.

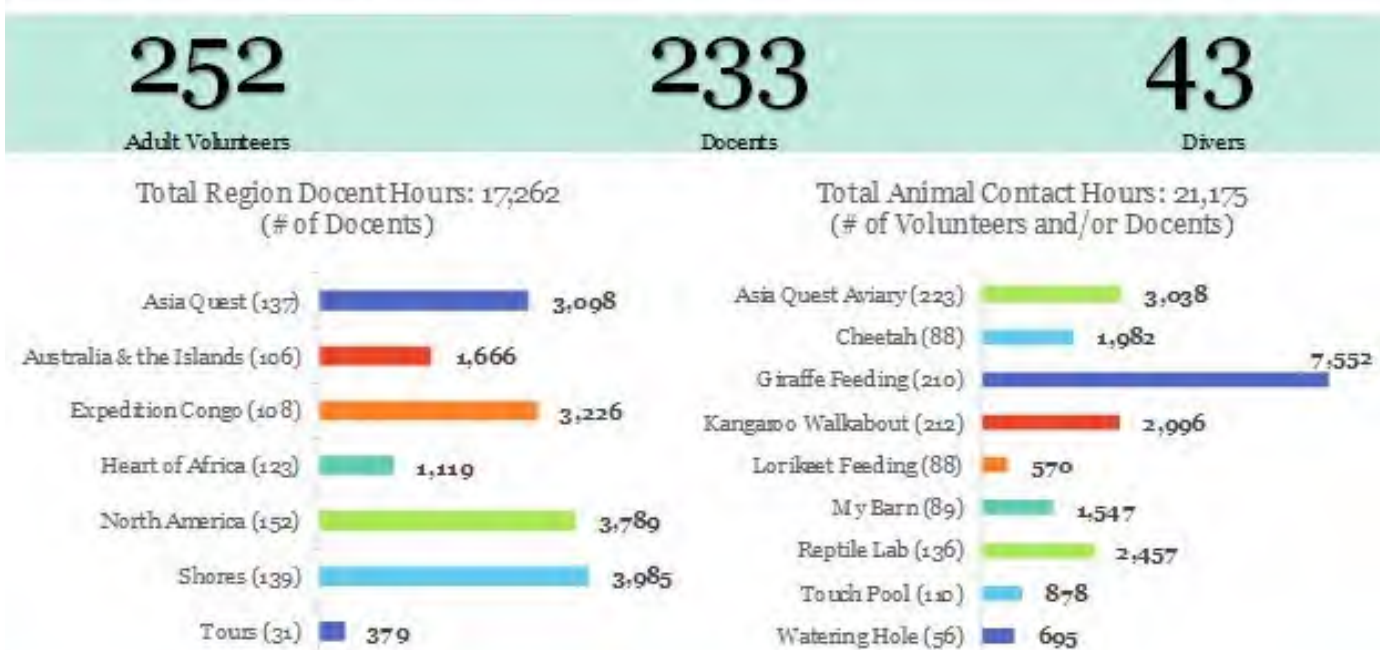
-Submitted by Bev Larson, VAP member, 2019-2020

2019 Zoo by the Numbers

Guests, especially those who have not been to the Zoo in a while, often marvel at the size and scope of Zoo operations. These quick facts should cover the most frequently asked questions of this genre.



2019 Volunteers by the Numbers



Information sourced by Nancy Mulholland from Columbus Zoo Staff: Greg Bell; Jen Fields; Mike Kreger; Karen Schenk; Shelly Roach; Barb Revard; Becky Ellsworth; Sheila Campbell; Kathy Shank; Columbuszoo.org

Infographic Designed by Barb Baugher

REGION NEWS

Asia Quest



Happy New Year to all our animal and human friends in the Asia Quest region! We anticipate a change to come soon to the **flying fox** habitat. Two **mouse deer** are in quarantine and we hope will soon join the bats and the honeyeaters. Their names are Legend, a 2.5-year-old male, and Lily, a 2-year-old female.

Many thanks to all the volunteers who've been participating in the birth watch for Heiderose **sloth bear**. Encouraging signs have been observed but there is no cub as of now. Keep those fingers crossed!

Paval **Pallas' cat** has been dealing with some medical issues but is feeling better. Though he is back in the building, he is not yet in the public aisle.

Both the **tufted deer** and the **Siberian musk deer** have breeding recommendations, including newcomer Joslyn tufted deer.

The four **markhor** girls born in late spring have names: Sophia (mother Harriet); Dorothy and Blanche (mother Florence); Rose (mother Rosalyn). Unfortunately, Harriet died in October.

The **silvered leaf langurs** are going through some organizational changes; the breeding group is currently divided up as JZ is getting big and challenging Thai (the only breeding male in our groups). JZ will soon be implanted (a form of chemical castration) and transitioned to the bachelor group.

Disappointing news for Changbai **Amur tiger** – she is not pregnant after undergoing AI last fall. She can be seen in the north boardwalk yard while Mara occupies the south boardwalk yard. Natasha and Jupiter have been introduced. Though no breeding has occurred, they seem quite friendly so far. Please keep the AQ Animal Care staff in your thoughts after the loss of Irisa, who was humanely euthanized on January 15. Irisa had been living with acute leukemia for some time and, in recent days, her health declined to the point that the difficult decision was made to euthanize her. We will all miss Irisa in the region.

Congo Expedition



2020 will be an exciting year for the Congo region. For the first time in several years, it will welcome the birth of a baby gorilla and a baby okapi. If you have not taken that long walk up to the region recently, believe me, it is worth doing so just to see Mac's **gorilla** group. This time of year provides us with a great opportunity to spend some time getting to know the gorillas – particularly our newest members, Shalia and her son, Sully – without all of the hustle and bustle associated with large crowds. Note: There are five young ones (six and under) in Mac's group!

Things are going well in the gorilla building. Mac's group officially has 11 members. He is doing a wonderful job of keeping the peace with everyone and keeping a handle on all the youngsters. There is still some learning to be done among all the individuals but, for now,

REGION NEWS

they seem respectful of each others' "spot" within the group. Even though the group is given a lot of space, there are times they choose to stay close together; you may even see the majority of them in one room. It is very heartwarming to see all the kids play, especially watching Sully (boy, isn't he cute?) become more and more comfortable interacting with his peers.

Oliver's group is getting some time in the building again which allows them to people watch, a pastime that makes Oliver quite happy. Because of the warmer January days, visitors had a chance to see Oliver and his girls in the yard.

Ktembe's group has moved into the old building for now. The girls play a lot with one another and Ktembe doesn't seem to mind being in the building. He is adjusting very well. During the first week in January, Nadami and Ktembe were playing with each other and both of them were laughing. Nadami used to play and laugh with Anakka, so it was extremely heartwarming to see that level of comfort between her and Ktembe. It has been a long time since she's been seen playing with a silverback.

Gorilla birth watch training will begin at the end of March in preparation for the birth of Cassie's baby. Animal Care staff will need help filling the watches. Seasonal staff will be monitoring the overnight watches, so they will be looking for evening help.

The **okapis** are all doing well. Damisi is continuing to gain weight and have a healthy pregnancy.

Two subgroups are being run in regard to **mandrills**. Mosi, Saffron and Matilda are one subgroup and Eebi and Julie make up the other. It has been determined that Mosi and Julie do not do well being in the same group. With that said, you may see different combinations of subgroups, but Mosi and Julie will always be separated. The keepers do fission-fusion with the others on occasion to help with husbandry.

Bonobos are doing fine. Although we may have some very unseasonably warm days, bonobos will more than likely not go into the yard. Elema is spending more and more time away from mom Unga and doing well. There may be questions from visitors about the green trash can lids that are hanging on the backs of the rooms. The lids are being used as barriers to help the bonobos have a little spot to go to where they will not be seen or not have to see certain individuals.

All three **leopards**, Sita, Jamie and Tyrion, are doing well. The cats rotate time in their spaces, so you never know who you will see out in the yard.

Jabari **colobus** recently had an emergency C-section due to the baby being in the breech position. Unfortunately, even with many amazing efforts from the Animal Health team, the infant did not survive. Jabari is back with her family and recovering well.

The **orangutans** are doing well in their indoor area. Staff is looking forward to the construction of their new indoor habitat that will take place in the spring/summer. At this time, it is expected that the orangutans will not have access to their yard this summer due to the construction.

REGION NEWS

Our **red river hogs**, Harold and Harriet, have also had the opportunity to spend time in their yard and get a breath of fresh air. Hopefully, they will be able to enjoy a few more warmer days. Remember though, this is Columbus – 60 degrees one day and 30 degrees the next!

Come visit or work in the region. The animals are always happy to “meet and greet” you at the windows.



Heart of Africa

All is quiet in the region. However, you can still go visit the **lion** girls and, on warmer days, look out toward the Savanna where you will be able to see the **wildebeest** as well as the **greater kudu** if the temperature is 42 degrees or above. Lion introductions have gone great and Nyasi, Kazi, Asali and Imara are all together now. Mom Naomi is still with the boy cubs that are growing like weeds! They are currently 60 pounds and putting on 6-10 pounds per week. The cubs do not spend time in the public viewing yard but are able to enjoy the warm weather in their holding yard.

Thomson's gazelle calf Sturgis is officially off bottle feeding and getting big. CC hasn't given birth yet, but is still within her birthing window. **Dama Gazelle** Kix injured her horns. Dr. Junge was able to put a plaster type cast on to stabilize them and, hopefully, was able to save the horns by doing so.

Grant's zebra girls, the **vervets**, **ostrich** girls, **saddlebill storks** and **East African grey-crowned cranes** are all doing well and have access to their holding yards on nice winter days. We still have six **helmeted guineafowl**! The **camel** boys have gone back to Wisconsin for a well-deserved, two-month vacation. We can expect them to return in late March.

In the **giraffe** barn, an intern did an observation study on a select group to determine if more browse decreases licking behaviors. The group being monitored was Jana (no surprise there!) and JP; Kip, Sam and Nitro were the median subjects with Logan and Waibig being the outliers. For two weeks, the group received normal amounts of food and browse to establish a baseline. Then, the browse was doubled for two weeks. Hopefully, an article will be written for the newsletter containing the results.



North America

My Barn will once again be part of North America and will be fully staffed by the North America Animal Care team. The **pigs**, **donkeys** and **mini horse** have moved to other facilities.

The **swans** are currently being housed at My Barn for the winter. They can be seen in the former donkey yard during the day. Cher and Georgeanne will move back to their regular habitat in the spring.

REGION NEWS

The baby **Nigerian dwarf goats** are growing up fast! Sadly, we had to euthanize Philbert due to health complications.

The **aviary** welcomed two bluebirds and a cedar waxwing. Unfortunately, we lost the Swainson's thrush and a song sparrow.

The North America Animal Care and Animal Health staff made the difficult decision to humanely euthanize beloved **cougar** Billy on January 23rd. His health had recently and significantly declined. Billy and his litter mate Jessie came to the Columbus Zoo and Aquarium after being rescued in Florida, and remained close throughout their 16 years sharing the same habitat, often grooming each other or sharing the same bed. Billy will be dearly missed in the region.

Alvar **wolverine** has moved to a bachelor pad behind the scenes at the bear kitchen as we approach Guillotine's potential due date – fingers crossed for kits! Thanks so very much to the 120 people that received training to help with this birth watch!

The **prairie dog** colony is spending most cold days below ground.

Anana **polar bear** did not have any cubs this year, so she has been reintroduced to Lee. Both appear very happy to be back together. Aurora will stay in the den with her cub for a few more months. She spends most of her time sleeping and resting with the cub. Aurora continues to be an attentive mother and the cub is huge!

Shores

It's once again nesting season for the **Humboldt penguins**. Nest boxes are in place in their indoor area, so expect the birds to be spending much of their time inside tending to nests, eggs and mates.

Another group of fish have completed quarantine and were added to Manatee Coast. The group consists of 20 **French grunts**, 20 **cottonwood grunts**, 15 **needlefish** and 10 **doctor tangs**.

The artificial **mangrove trees** near the boathouse in Manatee Coast were removed by the Planning Department due to the upper limbs becoming brittle. Leaves were also falling into the water. The "stumps" were very solidly built however, so they were left in place. Some additional theming was added to the area.

Flamingo chick John Glenn was taken to OSU and got a pin placed in his leg to adjust the growth of his leg. The procedure went extremely well and the leg growth has been almost completely corrected. The pin will be removed in a simple procedure since it has done its job.

Sand has been brought into **Stingray Bay** and the aquatic life support equipment is operating. Over the next couple of months, beneficial bacteria, which serve as a biological filter breaking down nitrogenous waste, will grow and colonize in the system. Stingrays will be moved into Stingray Bay in early spring.

REGION NEWS

One of the **blacktip reef sharks** in Discovery Reef has occasionally shown some erratic swimming behavior – with its head tilted in an upward direction. Animal Care and Animal Health staff have evaluated the shark and are closely monitoring it for recurrence.

Australia and the Islands



Lorises Gouda and Muenster are back out in the habitat. Cheddar and the twins are in the back area.

In the aviary, the **nicobars** are breeding.

In sadder news, Bernard, one of our **black swans** passed away recently. We now only have two, Darla and Dexter.

The keepers are getting ready to start prepping for Spring, even though it seems far away!



Photos courtesy of Cindy Wesney

Calendar

FEBRUARY

Zoo Hours: 10:00 a.m. -4:00 p.m. Half Price admission through February 29, 2020.

- SA 1 Newsletter Meeting: 9:00 a.m.
- SA 1 Zoo Book Club: "Down from the Mountain"—11:00 a.m., Classroom E
- SA 1 Rudy's Birthday Party—1:30 p.m.
- FR 14 Bird Count runs through 17th
- SA 15 New Docent class starts: Asia Quest
- MO 17 *Presidents' Day: Free Admission*
- SA 22 Docent class: North America
- SA 29 Docent class: Animal Programs
- SA 29 Newsletter Meeting: 9:00 a.m.

NOTE: *Docent classes: Experienced docents may attend afternoon sessions from 12:30-4:00 p.m. in the Education Auditorium.

MARCH

Zoo Hours: 10:000 a.m. - 5:00 p.m.

- WE 4 Chili Luncheon: 11 a.m. - 2:00 p.m.
- WE 4 Wildlife Diversity Conference: 8:00 a.m. -4:00p.m. Pre-registration recommended
- SA 7 Docent class: Shores
- SA 14 Docent class: Congo Expedition
- TU 17 Kickoff Meeting: 7:00 p.m.—Lakeside Pavilion
- SA 21 Docent class: Australia and the Islands
- SA 21 Museum of Biology Diversity: Free Open House/Free parking—10:00 a.m. -4:00 p.m.
- TU 24 **Region Meeting: Animal Programs—7:00 p.m.**
- SA 28 Docent class: Heart of Africa
- TU 31 Tentative date: Newsletter meeting (before region meeting)
- TU 31 **Region Meeting: Animal Health—7:00 p.m.**

NOTE: *Docent classes: Experienced docents may attend afternoon sessions from 12:30-4:00 p.m. in the Education Auditorium.

NOTE: All region meetings are in the auditorium unless noted otherwise. Dates are subject to change.

Our Vision: The Sustainable Co-existence of All Living Things
Our Mission: Lead and Inspire by Connecting People and Wildlife.

